SOME NEW BOOKS.

Weismann's Latest Essays.

We reviewed some time ago an English translation of some important lectures delivered at the University of Freiburg by Prof. AUGUST WEISMANN, perhaps the most distinguished of the German disciples of Darwin. In those lectures the author assailed the Lamarckian doctrine of the inheritance of acquired characters, discussed the causes of old age and death, and expounded his own theory of the immortality of the germ cells in the higher and more complex organisms which are propagated by sexual reproduction. In a volume which has lately been issued from the Clarendon press, Oxford, England, are presented translations of four later essays in which the author's teachings are revised, defended, and reaffirmed. The novelty of Prof. Weismann's conclusions and the respect commanded by him as an independent thinker render it worth while to outline the contents of these interesting papers.

I.

It is in an essay entitled "Retrogressive Development in Nature" that Prof. Weismann restates his reasons for believing, in contradistinction to Lamarck and Darwin, that characters acquired in the lifetime of an individual are not transmitted by inheritance to his offspring. At the first glance this assertion seems contrary to our observations. It is a well-known fact that parts of the body which are much used grow larger and more powerful, while those which are seldom exercised become small and weak. Constant gymnastic exercise will immensely increase the size and strength of the muscles of our arms; while these limbs will lose what strength they once possessed if the muscles are never exerted. The performances of athletes afford the best examples of the extent to which practice can increase the muscular strength and activity of man; and, on the other hand, those who work at occupations entailing a sedentary life and lack of exercise plainly show the weakening effects of disuse. Certain experiments prove this still more clearly. Thus, when the nerves supplying a muscle are cut, degeneration of the muscle ensues, because its activity is at an end, and the same thing happens in glands when their functions are disturbed by severing the nerves which supply them. Since, then, we may take it for granted that disuse of an organ will lead to its degeneration, even in the lifetime of a single individual, may we not also conclude that the gradual disappearance of a superfluous structure in the course of generations is due simply to the tendency to degeneration being handed down from one generation to another, and thus gradually intensified to the extent of complete elimination? For, supposing disuse to produce infinitely small effects during the life of each individual, surely these effects will be cumulative, and in course of generations the organ will gradually diminish in importance, become smaller and weaker, and ultimately disappear altogether.

This explanation, obvious as it seems at first sight, and although it was accepted by Lamarck, and even by Darwin, is rejected by Prof. Weismann on the ground that there are many facts which are quite incompatible with it. For instance, it involves the assumption of a fact which has never yet been proved, viz: the hereditary transmission of acquired character. The denial of this transmission is, as we have said, one of the distinctive features of our author's teachings. He admits, indeed, that many mental and physical qualities of parents are transmitted to their children, such as the color of the eyes and hair, and the shape and size of the finger nails; nor only these indeed, but even such minute and indefinable physical and mental characteristics as likeness of features, bearing, gait, handwriting, a mild and equable or passionate and irritable temperament. But it is pointed out that all these characters are blastogenic or inherent in the parents; whether they first show themselves early or late, they have existed in the parents in a more or less marked degree and in different combinations from the beginning. On the other hand, Prof. Weismann insists that characters that are only acquired by the operation of external circumstances acting during the life of the individual cannot be transmitted. The loss of a finger, for example, is not inherited; all the thousand faculties which are gained by exercise of various organs, or of the whole body, are purely personal acquirements and are not handed down to posterity. No case was ever known of a child being able to read without being taught, even though the parents had exercised their faculties in this direction all their lives. Children do not even learn to speak untaught, although not only their parents but countless generations of ancestors have exercised and perfected the brain and vocal organs by learning and speaking the language. Prof. Weismann deems it satisfactorily established that children of civilized nations, if brought up in the wilderness and cut off from all communication with man, would make no attempt at speech. For proof of this he does not feel himself obliged to fall back on the not very well authenticated story of the Persian monarch who is said to have made the experiment of taking twenty new-born children and bringing them up together without ever allowing them to hear a word of speech. They are supposed never to have made any sound resembling speech, but to have imitated with great fidelity the bleating of a goat which lived among them. The same thing is told in many well-known cases of young or adult persons found living in an utterly wild state in the woods—cases which have occurred from time to time up to the last century in Germany, France, England, and Russia. Nearly all these persons are said to have uttered sounds resembling the cries of wild animals with which they had associated, but not one was ever known to speak. When one considers the constant and unremitting practice in speech which we gain in a lifetime, whether by speaking aloud or thinking merely to ourselves, and remembers that, in spite of the effect of this perpetual exercise for centuries upon the human brain and vocal organs, the power of speech has not been in the slightest degree fixed or intensified by heredity, we seem justified by this one fact alone in doubting whether acquired characters can ever be transmitted in any real sense.

This, at all events, is Prof. Weismann's conviction, and, moreover, such a transmission is incompatible with the only theory of heredity which he considers tenable. If, however, the results of the exercise or use of an organ are not inherited, neither can the effects of disuse be handed down. Hence, if this be true, the retrograde changes taking place during the lives of individuals cannot possibly be intensified in the course of generations, for the process of retrogression would have to begin afresh in each generation successively, and thus would never advance any further than it did in the individuals of the first. Consequently our author regards the supposition that degeneration is caused by mere disuse as a mistaken one, and he seeks a more satisfactory explanation of the fact. He thinks that such an explanation is discernible in what he would call reversed natural selection.

In the effort to state his meaning clearly the author reminds us that Darwin and Wallace have taught us to understand by "natural selection" a process of elimination effected by nature itself without the aid of man. Inasmuch as far more individuals are born than can possibly live, only the best are enabled to survive—the best being those which are so called as being "the fittest" for the conditions in life in which they are placed. As in each generation only the fittest survive and propagate the species, their qualities only are transmitted, while the less useful qualities of the weaker individuals die out. Each successive generation will, therefore, consist of individuals better organized than those of the preceding one, and thus useful characters would gradually be intensified from generation to generation until the greatest possible approach to perfection is made.

What holds good for the individual as a whole also holds good for each separate organ, inasmuch as the ability of an animal to perform its allotted functions depends on the efficiency of each particular organ; hence by means of this perpetual elimination of the unfit, every organ is brought to perfection. On this hypothesis, and on this only, is it possible to explain the wonderful adaptability of the minutest details of structure in animals and plants and the development of the organic world through the operation of natural forces. If, however, this view be the true one, if adaptation in all the parts of living forms be truly the result of natural selection, it follows that the same process which produced these adaptations will tend to preserve them, and it also follows that they will disappear when natural selection ceases to act. These considerations show why organs which have become superfluous and have fallen into disuse, necessarily degenerate and ultimately disappear.

As an example, Prof. Weismann takes one of the newts which are common in the German swamps and pools in spring. If its eyes are examined they are observed to be very highly developed; their structure bears considerable likeness to that of the human eye, and they play a very important part in the life of the animal, which is almost entirely dependent on keenness of vision for finding its prey. Were it not for its eyes the newt would starve. These eyes are extremely delicate and complex organs, which have only very gradually—*i. e.*, in the course of countless generations and of almost endless time—made the approach to perfection exhibited in the living newt. The slow but steady progress in development from stage to stage is due, as Prof. Weismann believes, to the fact that the eyes of these animals were never all exactly alike, or equally keen, and only those individuals survived in each generation in which the development of the eyes was above the average. This process of natural selection would not only produce a gradual improvement to the eye, but would also tend to keep the improvement, when gained, up to a certain standard.

Now suppose such a species of newt to have been carried underground by water into a dark cavern. It would only gradually adapt itself to the new conditions so as to be able to thrive in the cave, but after the lapse of generations some individuals would have learned to live in complete darkness and to distinguish and catch their prey without the aid of sight; this would be rendered possible by an improvement in other organs, especially those of touch and smell. Thus, in course of time, a race of newts would be produced perfectly adapted for life in the dark, and for finding food by scent alone and not by sight. Directly, however, such cave dwellers became able to exist without using their eyes, the degeneration of these organs would set in; as soon as they ceased to be essential to the life of the animal natural selection would be powerless to affect them, for it would be immaterial whether the eyes of any animal were above or below the standard. Hence the individuals with weaker sight would no longer be eliminated, but would have an equal chance of surviving and propagating their species. Crossing would then take place between individuals with strong eyes and those with weak eyes, and the result would be a gradual deterioration of the organs. Possibly the process might be accelerated by the circumstance that small and degenerate eyes would be rather an advantage, because their decrease would involve an increase in the powers of other and now more important organs, such as those of touch and smell. But even independently of this, the eye, when it ceases to be kept up to a certain standard of development by natural selection, will gradually deteriorate, the process being very slow at first, but absolutely sure.

According to Prof. Weismann the same simple explanation suffices for all cases of retrogressive development, whether of organs or species. Why, for example, have most of our domestic animals lost their original coloring? Clearly because color became of little or no importance to them as soon as they were sheltered under the protection of man, whereas in a wild state it was a great safeguard against detection by their enemies. Similarly, a hairy covering has ceased to be of importance to certain of the mammalia, and consequently has disappeared. Thus whales and dolphins have a naked skin, for the most part entirely devoid of hair, although they are unquestionably descended from hairy ancestors, and even now rudimentary hairs may be detected in certain parts of their bodies by the aid of a microscope. Manifestly the disappearance of the hairy covering cannot be a direct consequence of disuse, for hair will grow as well whether its protective warmth be useful or of no importance to the animal. But that its disappearance is an indirect consequence of disuse is plain; for as soon as an immense thickness of blubber was developed beneath the skin of a whale the warmth of an additional covering was unnecessary; the hair becoming superfluous, natural selection ceased to affect it and degeneration at once set in. If any one doubts whether the direct action of sea water should not be credited with the disappearance of the hair, the doubt will be dispelled by looking at the group of seals, in which all the smaller species possess a thick coat of fur, whereas among the larger kinds the walrus has but a scanty covering of bristles, because, like the whale, it has developed a layer of blubber which is amply sufficient to protect its body from cold.

Still more striking instances of degeneration through the action of what Prof. Weismann would call reversed natural selection are to be found among the social insects, especially the ants. The male and female ants are winged, and at certain times in the year rise into the air in great swarms. The males and females, however, form the minority in an ant community, the greater number being workers—the common wingless ants. These workers in the course of the development of the species have forfeited their wings as an indirect consequence of disuse, because the power of flight would be useless to them, and they would be exposed to even greater danger in the air than on the ground. The business of their lives is to forage for food supplies and to collect building materials for the nest, but everything which they seek is obtainable on the ground; they have also to feed the larvæ and tend the pupæ, and to them alone belongs the defence of the nest if it is attacked. All these tasks bind them to a life on the ground; hence, when in former days they were being gradually developed from perfect females, they came to use their wings less and less as they gave themselves up more and more completely to the duties allotted to them. In this case, indeed, as in many another, it would seem at first sight probable that the long-continued disuse produced a certain amount of degeneration in each individual; that the first retrograde change was inherited by the succeeding generation, and gradually intensified by further disuse, and so on. Such a view, however, is entirely disposed of by a fact which admits of no dispute, and cannot be explained away, viz.: The fact that the working ants are infertile and do not propagate their species. Consequently, it is impossible that the degeneration caused by disuse during individual lives should be handed down, and the elimination of the wings is only explicable on the other theory which ascribes it to the cessation of the operation of natural selection which ensued when the wings became useless. Of course, the principle of the elimination of the unfitted did not act directly on the workers, but on their parents, the propagators of the species. That is to say, natural selection, although not affecting the workers themselves, does affect the parents and determines their survival according as they produce perfect or imperfect workers.

The process by which the degeneration of superfluous organs takes place is termed by Prof. Weismann panmixia, or "universal crossing," because it implies that not those individuals only in which any particular organ is best developed survive and propagate their species, but that survival is quite independent of the efficiency or non-efficiency of the organ. The author of these essays is convinced that this process of panmixia must have had and must still have great influence on the development of the organic world. The changes wrought by evolution have been and are innumerable, and they by no means always occur in an upward direction, but often, as is exemplified in the case of the parasites, in a downward one, or perhaps most frequently in both directions at once, the change being reprogressive in one part and progressive in another. Very often, indeed, the former change may actually lead to the latter. Civilized men could hardly have attained so high a degree of intellectual development had they not forfeited a considerable share of the physical advantages possessed by their remote ancestors. The savage tribes which depend upon the chase are gifted with a much keener sense of hearing, smell, and sight than we are, and this is not merely the constant result of training, but is also due to the inheritance of more efficient organs. In this respect, according to Prof. Weismann, civilization has caused degeneration in us by means of panmixia, owing to the fact that the well being of individuals no longer depends upon the highest possible development of their sense organs. At the present day we are able to make a living equally well whether our sense of hearing or smell is delicate or the reverse, and even keenness of sight is no longer of decisive importance to us in the struggle for existence. Ever since the invention of spectacles short-sighted persons—in the higher classes, at any rate—experience hardly any more difficulty in getting a living than that encountered by people with keen sight. In former times a short-sighted soldier or General would have been a sheer impossibility, and so would have been a short-sighted hunter. In all grades of society short sight used to be a serious disadvantage, and, in truth, an almost complete bar to advancement of any kind. This is no longer the case; a short-sighted man makes his way in life as successfully as any other, and his defect, if congenital, will be transmitted to his children, and will therefore tend to make hereditary short sight common among certain classes. No doubt short sight may also be an acquired character, but in such cases, according to Prof. Weismann, it is not transmitted. His belief is that the great prevalence of short sight is not only due to the injuries suffered from over-straining the eyes and continually looking at near objects, but also to panmixia, or cessation of the action of natural selection—a cessation to which we are naturally subject in common with other animals. Much more might be said of the effects of civilization in causing physical degeneration, which, indeed, seems just now to be on the increase among civilized people. Another example may be noted in the teeth; the art of dentistry has been brought to such a pitch of perfection that artificial teeth are now almost to be preferred to natural ones. It is at any rate certain that no one now need die from insufficient nourishment in consequence of the inability to masticate food, and therefore natural selection will not interpose to prevent the transmission of a predisposition to bad teeth to any number of descendants.

Nevertheless, Prof. Weismann does not fear that civilization will ever lead to utter degeneration in man. He sees the antidote in the very process which causes the first deterioration of an organ; for obviously such deterioration can only continue as long as it is not injurious to the individual in the struggle for existence. When that point is reached natural selection will interfere to prevent further degeneration. It is, for instance, pronounced quite conceivable that the percentage of persons with hereditary short sight may steadily increase for a considerable period without seriously affecting the general standard of vision of mankind as a whole, or even that of a single nation or class, because degeneration below a certain point will become a fact of decisive importance to the individual and lead to failure in the struggle for existence. Thus we need not fear the complete loss of our eyes through degeneration like that which has affected the animals living in the dark; and we need not anticipate any serious diminution of our muscular strength or powers of endurance or of any other qualities.

II.

In the paper entitled "Thoughts Upon the Musical Sense in Animals and Man," Prof. Weismann discusses the question whether any increase in musical talent has, as a matter of fact, taken place in the course of ages. He carefully distinguishes between the perfection of the auditory apparatus and the possession of another factor equally indispensable to the appreciation of music, viz.: A mind sensitive, impressionable, and highly developed. A further distinction is drawn between musical talent and music, the product, and the author's conclusion is that notwithstanding the vast improvement in music considered as an invention and built upon tradition, there is no ground for assuming any advance in musical talent since the times of the Greeks and Romans. This is undoubtedly a paradox, and the grounds for its assertion are set forth in some detail. It is in the first place pointed out that our auditory apparatus consists of two parts: first, the auditory organ proper, viz., the outer, middle, and inner ear, by which the various sounds become nervous stimuli, each producing a corresponding nerve impulse; secondly, that part of the brain which transforms the impulses conveyed to it by the auditory nerve into sensations of sound; this is the auditory centre of our brain. The first part of this twofold organ, the auditory organ proper, is, so far as we know, not much higher in organization than that of many animals, and it does not possess any peculiarity of construction which would justify us in the assumption that the power of hearing music is much greater than in animals. It is probable that our most remote ancestors possessed an auditory organ similar to that which we possess to-day, for in the living caricatures of men, the apes, it reaches almost the same degree of perfection. It is easy to understand in a general way how in all the mammalia the ear could have been elaborated and raised to a high pitch of excellence by natural selection. Wild animals stand in need of a very fine ear; it is absolutely essential to them to know with certainty whether any particular sound proceeds from an enemy or from their prey. While a single mistake might be fatal to them, one often repeated would be punished inevitably with death. If they mistook the sound made by an enemy for that of their prey they would of course go to certain destruction, but the opposite mistake might also be fatal, for the food of a beast of prey is nearly always scarce, and if many opportunities were missed the animal would die of starvation. If, however, the mammalian auditory organ must attain so high a pitch of perfection, lest it should be inadequate in the struggle for life, it is clear that the part of the brain by which notes are perceived, the auditory centre, must possess a corresponding degree of organization. Prof. Weismann assumes it to be certain that a corresponding degree of development is found in those layers of nerve cells and nerve fibres in the auditory centre, the so-called field of memory, which serve as the material basis of the memory of auditory perception. The perfection of this two-fold auditory apparatus must have been more extensively diffused among primitive men than it is now, because an exquisite capacity for hearing was then more indispensable in the struggle for life. So far, then, as musical talent is dependent on the excellence of the auditory apparatus, we have no reason to think that it has increased with the progress of civilization. There are, of course, many contemporary examples of as close an approach to auditory perfection as were ever made in the past; but, on the other hand, there are many more instances of a defective auditory apparatus than could have been exhibited under the trying conditions of a primitive existence

But because primitive man possessed an auditory apparatus as perfect as our own it does not follow that his musical talent was the same. The understanding of our highest music needs not only an auditory organ and an auditory centre, together with the lifelong training of these, but something behind them, namely, a sensitive, impressionable, and highly developed mind. A comparison between the musical perception of a parrot's brain and that of a man convinces Dr. Weismann that one and the same auditory organ, together with its auditory centre, must produce an entirely different effect upon the mind according as this is more highly or lowly organized. The "soul" is, as it were, played upon like an instrument by the musical nerve vibrations of the auditory centre. The more perfect this instrument is, the greater is the effect produced. If, then, primitive man did not possess a mind like that of his descendant; if his intellect and every dependent power became far keener and deeper as the struggle for life went on through the course of ages, it follows that the faculty of perceiving music must also have been augmentive. We may, therefore, regard it as impossible that a lost Beethoven ever existed among primitive men, and it is even doubtful whether one could be found among existing Australians or negroes. For the production of a Beethoven there is needed not only a highly organized auditory apparatus, but also a rich, great, and intensely sensitive soul, and we know by experience that such a nature is only to be found among the very highest intellects. Prof. Weismann goes further, and denies that the child of primitive man, if he were alive to-day, could be raised by education to the same level of musical understanding as that reached by our own children. He would fail, it is averred, for want of inherent power of mind.

Have we, however, any ground for assuming that our musical talent is superior to that of the Greeks and Romans? Our musical product is superior, but is that fact due to a difference of innate capacity or to a difference of external conditions? We have seen, indeed, that susceptibility to music must have increased during the intellectual evolution of mankind; so long, in fact, as the essential nature of the human mind was capable of being raised. But at what precise period in the history of a certain nation, or group of nations, shall we hold that the climax of intellectual evolution has been reached? As a mere suggestion, without any pretence to exactness, Prof. Weismann suggests that the people of "antiquity," viz., the ancient civilized nations of the Mediterranean, had already at the very dawn of their history attained the highest level of intellectual development. If any further growth has occurred since then in European nations, it has certainly been so imperceptibly small that it could cause no sensible difference in the susceptibility of the human soul to music. The times which produced such legislators as Moses and Solomon, poets like Homer and Sophocles, philosophers and men of science, like Aristotle, Plato, and Archimedes—the times which created the Egyptian temples and pyramids and the statues of Greek gods—most undoubtedly display the achievements of the human intellect at its best. And an age which produced the gentle and forgiving Christain philosophy shows us that, as regards character and feeling, the human mind had attained the highest development. It is therefore assumed by the author of these essays that the nations of "antiquity" possessed a capacity for music equal to our own, and that the times during which the human intellect can be said to have been in process of elevation lie far behind them.

How, then, did it happen that the music of antiquity was, by comparison with ours, so poor? If the mental instrument with which we make—*i. e.*, invent and enjoy—music has existed for so many ages, why did not man perform symphonies and oratorios in the age of the Pharaohs? The reply depends upon a recognition of the distinction between music and musical talent; the latter is due, and due only, to the nature of the individual body and mind, while the former is also due to a slow process of development by means of tradition. Music considered as a product is an invention and rests upon tradition, the power on which depends the entire growth of culture, the development of language, of the sciences and their practical application, and of every kind of art.

It does not fall within Dr. Weismann's province to follow the slow and gradual evolution of music since the era of the building of the pyramids. The aim of his essay is fulfilled when he demonstrates that the evolution of music, considered as a product, has not depended upon any increase of the musical faculty, or any alteration in the inherent physical nature of man, but solely upon the power of transmitting the intellectual achievements of each generation to that which follows it. This power of transmission, more than anything else, is the cause of the superiority of man over animals—this, and not merely human faculty, although it may be admitted that the latter is much higher than that of animals. Even if we were compelled to believe that human faculty has reached its limits, and can be no further increased, even then we need not despair of the almost boundless progress of mankind. For each generation always starts from the acquirements of the preceding one, and the living child, placed from the outset by tradition upon a somewhat greater height of intellectual achievement than that occupied by his predecessor, is then able with the same powers to climb yet higher up the steep slope of the most advanced civilization. Hence, even if our intellectual powers have attained the highest possible stage, human civilization will nevertheless progress, and however far we may look forward the conquests of the mind of man will never cease.

The third of the essays included in this volume is an answer to some objections advanced against the author's views by Prof. Veines of the University of Oxford, and will be found to elucidate some points upon which Prof. Weismann has been frequently misunderstood. In the last and much the longest essay, the author's conception of the essential meaning of so-called sexual reproduction is presented in its final form, having been reconstructed on the basis of various new discoveries. The species of immortality attributed to the germ cells in the higher organism is here precisely defined. The author's view on this point has been misapprehended, owing to the assumption that the terms "immortal" and "eternal" were regarded by him as synonymous. Dr. Weismann does not say that the germ cells in the higher organisms are eternal, for of course they had a beginning, whereas that which is eternal has neither beginning nor end. He does not say either that they are indestructible, for, of course, they may be destroyed through adverse conditions. What he says is that the germ cells, whereby the higher organisms are propagated, are immortal in the sense that, unlike the somatic cells, which constitute all that is individual in the body, they do not contain in themselves an innate propensity to decay and death.

M. W. H.

A Colored Man's Defence of His Race.

It is a somewhat misleading title which is borne by a book before us, *The Lone Star of Liberia*, by FREDERICK ALEXANDER DURHAM (London, Elliot Stock). The author, who is, it seems, an African, a native of Trinidad, and a student of law at Lincoln's Inn, does not confine himself to an account of the Liberian experiment in colonization, but discusses the condition and prospects of the blacks in Hayti and in the West Indies generally. The ultimate purpose of his book is to prove that the solution of the African race problem in the United States is to be sought in repatriation; that is to say, in the transfer of the American negroes to Africa. The author writes with a good deal of bitterness, which, perhaps, is pardonable when we consider the slurs cast by white writers on the morals and intellectual capacity of his colored brethren. But when all proper deductions have been made upon this score we must credit Mr. Durham with a striking contribution to the study of a deeply interesting question.

Mr. Durham has a preliminary word to say about the term by which he thinks the members of his race should describe themselves. He objects to the use of the words negro and colored. Ham's descendants are, he says, Africans by geographical origin and Ethiopians by race, just as the progeny of Japhet are Europeans, as regards their original location, and Caucasians by race. Again, Africans and other Ethiopians are black, as Europeans and other Caucasians are white. He does not see why the hue of the complexion should be indelibly stamped on the appellation of one race and not upon that of the other. He would therefore have his brethren call themselves Africans and leave it to their former oppressors to taunt them with their color.

I.

What is the actual condition of Liberia, and what are its possibilities? These questions are answered in the course of a chapter whose purpose is to show that the Liberian fatherland is the only suitable place of residence for the Americo-African. It is pointed out that the Liberian Constitution is modelled upon that of the United States; it is, in other words, a Constitution to which the Americo-Africans are accustomed. In Liberia, however, there is no mob rule and no lynch law. Even-handed justice prevails throughout the republic. No race problem can possibly exist, because no man who is not of African descent can be a Liberian citizen. The rulers are not whites, as they are in the United States and the British colonies; they are blacks. The official language is not French, as is the case in the Congo Free State, but English; the language which the Africo-American uses daily and exclusively. Moreover, unlike the Congo Free State, Liberia is progressive. Mr. Durham insists that she has in her all the elements of progress, and that, embracing as she does at least one hundred and fifty thousand square miles of territory, she has room enough to accommodate the entire body of expatriated Africans. In Liberia the Americo-African would encounter familiar political subdivisions, such as counties, townships, and chartered cities; he would find there Mayors, Aldermen, public libraries and librarians, churches and clergymen, Coroners, colleges and schools, professors and teachers, lawyers and physicians, shops and merchants, warehouses, wharves, custom houses, lighthouses, forts, a body of regular soldiers, militia, and police. Apropos of churches, one should note in passing that the Liberian Constitution, while it tolerates all religions and forms of worship, allows no established Church.

Mr. Durham enumerates no fewer than nineteen important towns in Liberia, exclusive of Monrovia, the chief seaport and seat of Government. Among the Liberian products which are exported may be mentioned cocoa, coffee, cotton, indigo, dyewood, ivory, gold, tortoise shell, hides, iron, copper, rubber, the teeth of the seahorse, palm oil, cattle, goats, wine, fowls, ducks, sheep, the sugar cane, rice, Indian corn, millet, wax, ground nuts, ginger, pepper, arrowroot, palm kernels, yams, bananas, cassava, pineapples, oranges, cocoanuts, and tamarinds. The soil is extremely fertile; the natives of the country, although often without tools or skill, are able with very little labor to raise more grain and vegetables than they can consume, and frequently more than they can sell. Cattle, swine, goats, sheep, fowls, and ducks thrive without feeding and require no other care than to keep them from straying. Cotton, coffee, indigo, and sugar cane are the spontaneous products of the soil, and may be cultivated at pleasure to any extent. One should add that winter is unknown in Liberia; the hills and plains are covered with perpetual verdure, and nature is constantly pouring her treasures all the year around into the laps of the industrious. Mechanics of nearly every trade are carrying on their various occupations, and there is not a child in the colony but is provided with an appropriate schooling. The piety of the first settlers has been transmitted to their descendants, and the standard of morals remains high.

The author denies with energy a statement made in the London *Times* two years ago by Mr. W. Laird Clowes, who had been commissioned to investigate the condition of our Southern States. Mr. Clowes asserted that to-day in Liberia whites are treated by the blacks much as blacks are treated by whites in the South. Did he mean, asks Mr. Durham, that whites in Liberia are lynched by the black citizens? Did he mean that the persons and property of whites are not protected by Liberian law, and that the whites are refused a fair hearing in the Liberian courts of justice? He could not have meant any of these things, for had they existed the European and American Ministers and Consul-Generals to Liberia would have protested against the maltreatment of the whites. No such protest has been made, and we are therefore justified in inferring that the whites are not ill treated in Liberia. It is true that the Liberian Constitution confers citizenship on none save those of African descent, but Mr. Durham is doubtless right in saying that were it not for this restriction Liberia would be swamped by white men, and the fundamental purpose of the colony frustrated.

Another assertion made by Mr. Clowes was that diplomatic intercourse with Liberia and Hayti cannot be carried on under ordinary conditions; neither can commercial transactions. Mr. Durham rejoins that as a matter of fact the principal countries of Europe and of the American continent receive Ministers and Consul-Generals and Consuls from Liberia and Hayti, while those States in their turn receive diplomatic and commercial representatives from the Americas and Europe. As to commercial transactions being impracticable, is it likely, asks the author, that if this were true the British India Rubber States Company would have been formed for the purpose of acquiring and working a concession from the Government of Liberia for the right of collecting and exporting India rubber and gutta percha to the European and American markets? Another statement of Mr. Clowes's was that the colony of Liberia had not been a conspicuous success for the reason that the American immigrants and their descendants hardly number 5,000 souls. The figures are strangely incorrect. *The African Repository*, the organ of the American Colonization Society, reported in April, 1891, that emigration to Liberia under the auspices of the society just named has been uninterrupted for the past seventy years. Those last registered make the number sent since the civil war 4,201, and give a total from the beginning of 16,209, exclusive of 4,722 recaptured Africans whom the society induced the Government of the United States to settle in Liberia. We have thus a grand total of nearly 22,000 persons to whom the society has given homes in Liberia, to say nothing of the descendants of these colonists.

II.

It is commonly said that the African in Hayti, since he has become self-governed, has retrograded or reverted. On this point Mr. Durham remarks that if a State be misgoverned it will necessarily yield a decreasing revenue and its commerce will remain stagnant, if it does not decline. If the evidence of commerce be accepted, it will be found that Hayti is showing signs of progress, and that it can scarcely be so improperly governed as is commonly supposed. To bring out more clearly its commercial and economical conditions, the author of this book compares it with other States having an equal or a larger population. Hayti, which contains 550,000 Africans, had in 1887-88 a revenue derived from customs only, which amounted to upward of $8,500,000. Its imports were returned at $4,820,000, and its exports were valued at $7,425,000. The republic of Bolivia, with 2,300,000 inhabitants, had its public revenue computed in the same year at $3,750,000, or only about half as much as was raised in Hayti. In the same year Hayti's exports and imports were greater than those of the Transvaal Republic, which contains 800,000 inhabitants. The republic of Guatemala, by far the largest of the Central American States, has 1,437,116 inhabitants. In 1889 its revenue was valued at $3,845,000; its exports were computed in 1888 at $5,565,000, and its imports at $4,200,000. These figures are less, under each head, it will be noticed, than those exhibited by Hayti. What is true of Guatemala is true *a fortiori*, of Costa Rica, Salvador, Honduras, and Nicaragua. All of these Spanish American commonwealths from the fiscal and commercial point of view rank far below the black republic of Hayti. The same thing is true of Ecuador, which with 1,000,000 inhabitants could not raise in 1890 two-fifths as much public revenue as was obtainable in Hayti from customs alone. The French possessions of Annam and Tonquin, with 15,000,000 inhabitants, had their public revenue imports and exports valued in 1888-89. In all three respects these possessions were far behind the Haytians. Hayti's revenue and foreign trade exceed those of French Cochin China and also those of French Cambodia, although each of those colonies has about three times as many inhabitants. Under black rule Hayti obtains a greater revenue than does the colony of the Straits Settlements with a population of over 600,000 under the British crown. Europeans have been for four centuries in the Gold Coast and in the Gambia, a century in Sierra Leone, and more than half a century in Lagos, yet all four regions, with a total of 1,616,000 inhabitants under British rule, yield collectively less revenue and exports than does Hayti. The amount of Hayti's yearly imports and revenue is far in excess of the aggregate revenue, exports, and imports of Luxemburg, Montenegro, Monaco, Liechtenstein, San Marino, and Andorra put together. Finally Hayti's exports, revenue, and imports are not far behind those of the Venezuelan republic, while they are nearly equal to those of the kingdom of Servia. Nor, in considering the financial resources of Hayti, can it be overlooked that the republic was crippled at the outset by the necessity of paying $30,000,000 demanded by France as the condition of her recognition of Haytian independence. As regards the way in which a part at least of the public revenue is spent, it is pointed out that free or assisted education has existed among the Haytians since 1860, whereas England is now for the first time able to boast of actual free education. There are now in Hayti 600 schools, besides faculties of law and medicine, several colleges, and a military academy. We should mention further that Mr. Durham denies the often-repeated statement that white men can own no freehold property in Hayti. As a matter of fact, he says, this is not true, but if it were true it would prove nothing as regards the grade of civilization. Up to 1870 foreigners were incapable of owning land in fee simple in the British Islands.

III.

The statement made by the Commissioner of the *Times* that the African is "dull, stupid, and indolent," and that he is "in mind a child," is resented with a good deal of heat by the author of this book. He proceeds to set forth an imposing list of men of color who, in a period of about a century, have rendered themselves conspicuous for intellect on both sides of the Atlantic. He begins with Geoffrey L'Islet, who was an artillery officer in the French army, and founded a scientific society in Mauritius when that island belonged to France. Of this man it is recorded that although he had very few facilities for acquiring knowledge and never set foot in Europe, he was an accomplished astronomer and a skilful botanist, and excelled in natural philosophy and geometry. In 1786 he was appointed correspondent in Mauritius of the French Academy of Sciences; he was acknowledged to be a hydrographer of the first class and a skilful meteorologist, and his works on astronomy received official recognition at the hands of the French Government in 1791. Geoffrey L'Islet was an African. There again, although of earlier date, was Anthony William Amo, an African born in Guinea, who in 1720 published his "De Jure Maurorum," and in 1734 a physiological dissertation. In the latter year he graduated as Doctor in Philosophy at the University of Wittenburg. He spoke Hebrew, Greek, Latin, German, French, and Dutch, became an accomplished astronomer, and was ultimately made by the King of Prussia a Councillor of State. Amo was a full-blooded African. Another full-blooded Ethiopian was Benjamin Banneker of Ellicott's Mills, in Maryland, who also obtained a creditable rank among astronomers. Banneker, like Amo, was born a slave. Of course the author of this book would not forget to remind us of the well-known colored man, Alexandre Dumas, who died in 1807 a General of Division, and was called by Napoleon "The Horatius Cocles of the Tyrol," or of that General's son, Dumas the novelist, who wrote "Monte Cristo" and the "Three Musketeers," or of the General's grandson, Alexandre Dumas the younger, who has been almost equally successful in the drama, in prose fiction, and as a writer of essays. Passing over many other names we note that of Dr. James McClure Smith, an African, who, when he graduated in medicine in the Scottish commercial metropolis, bore away the first prize from 500 alumni of the University of Glasgow. Another scholar of African blood is Prof. Edward W. Blyden, well known to the readers of London periodicals. Prof. Blyden is, it seems, a native of Sierra Leone, but emigrated in youth to Liberia. Among the blacks of Jamaica who have made their mark in politics may be mentioned Richard Hill, Edward Jordan, Peter Moncrieff, and George William Gordon. The latter was the leader of the opposition to Col. Eyre's Government in Jamaica. In the island of Trinidad an African named Mitchell Maxwell Phillip was appointed Solicitor-General by the English Secretary of State for the Colonies. In Barbadoes another black, Sir William Conrad Reeves, was knighted and made Chief Justice. Among other colored officeholders of more or less distinction under the British crown may be cited Francis Smith, Puisne Judge, and Charles Pike, Colonial Treasurer of the Gold Coast Colony; J. H. Spain, Postmaster-General of the Colony of Sierra Leone; J. C. Parkes, Minister for Native Affairs in the same colony; Roland Cole, Postmaster-General of the Gold Coast; Hendrik Vroom, Augustus William Thompson, and D. B. Yorke, District Commissioners in the same colony; J. R. Maxwell, Chief Magistrate of the Gambia, and James A. McCarthy, Queen's Advocate of the colony of Sierra Leone. In view of the fact that British African emancipation only dates back fifty-three years, Mr. Durham submits that this list argues well in favor of the progress the African has made and is capable of making.

Mr. Carleton's Preparations for Death.

From the Buffalo Courier.

WARSAW, June 29.—The funeral of Carleton, aged 88 years, who died last Sunday, took place yesterday. Thirteen years ago Mr. Carleton bought in Buffalo the pine lumber for his coffin, kept it seasoning in his own house for three years, and then brought it to Warsaw for the coffin to be made immediately. It was 7 feet 4 inches long, as he wished it to be "roomy and comfortable," painted white inside and black outside. It was Mr. Carleton's intention to take the coffin home, in order that it might be "handy" when required, but his wife, demurring to this, it remained in Lawrence's undertaking rooms during the last ten years. The remains of the eccentric man were placed in it on Tuesday.

At the same time the order was given for the coffin, in October, 1882, Mr. Carleton also contracted with Hugh Curry to dig for him, when required, a wide, deep grave, to be laid up with brick; and with John Hanigan for a tombstone in the shape of a miniature house with windows, doors, and chimneys, and over the front door the words, "Home, Sweet Home." The monument was constructed, and has ever since been in Mr. Hanigan's marble warehouse. Last Monday Mr. Curry went to Carleton Hill, in Middlebury, and made the grave according to contract, and Mr. Hanigan will soon place the monument at its head.

His Struggle for Existence.

From the Troy Press.

"What do you do for a living?" inquired an Albany census enumerator of a resident of that city.

"My wife works in a Troy collar shop," was the answer.

WOLCOTT OF COLORADO.

Something About the Man Who Nominated Blaine at Minneapolis.

DENVER, July 2.—Edward O. Wolcott, who nominated Blaine at Minneapolis, first attracted national attention as an orator by his New England dinner speeches. His gifts of oratory, his fluent diction, his brilliant wit, his energy and virility, gave him prominence and caused him to be sought after as a public speaker. He has a quick, nervous, impulsive way of saying and doing things, and he seems to be always in a hurry. He would attract attention anywhere. His large head has a blond covering, and a blond moustache graces his upper lip. His mouth is large and is expressive of one of his distinguishing characteristics—determination. His voice is resonant and clear as a bell. He is prodigal in his friendships and bitter and uncompromising in his enmities. He is a genuine iconoclast, and is constantly overthrowing precedents and violating the proprieties. He is the only United States Senator who ever attended a session of that body attired in a négligé shirt of the racecourse pattern, a silk sash, a variegated tie, and russet shoes.

He possesses a subtle power of charming men and winning them to his way of thinking that can scarcely be accounted for on the grounds of "personal magnetism." He enjoys a bright remark, or a good story, and his repartee is so keen, apt, and incisive that his antagonists dread it.

When he was a young man he was, as now, attorney for several large railway corpora-

tions. He was regarded by the gentler sex as a confirmed bachelor, proof against all the advances and charms of matrimony. A lady in the southern part of the State desired a pass to Denver. She wrote to a friend, who was well acquainted with Mr. Wolcott, asking her to request a pass from him, and, like all women, she wrote a postscript, which in this instance was as follows:

P. S.—I wish you would also send me one of those P. D. corsets; the kind you wore when I was last in Denver. I think they are just too lovely for anything.

Her friend being in very much of a hurry, and momentarily forgetting all about the postscript, endorsed a request on the back and forwarded the letter to Mr. Wolcott. A reply came promptly as follows:

DEAR MADAM—I enclose a pass, as requested, for your friend, Miss ———. I would send her the P. D. corset, but have forgotten her number. Very respectfully,
E. O. WOLCOTT.

Senator Wolcott's legal abilities attracted attention in Colorado when he was a young practitioner in one of the mountain counties. The docket of the judicial district in which he lived was more than two years behind. Mr. Wolcott at the beginning of a local campaign announced to the people of the district that if they would elect him District Attorney he would clear the criminal docket. They took him at his word and elected him. Six months after assuming the office not a single criminal case was left on the docket. Mr. Wolcott then resigned, although importuned by his constituents to retain the office. Since then his rise at the bar has been rapid, and he is now the general counsel for six or seven of the largest corporations in the West, including three railroads.

Senator Wolcott reads more books and consumes less time in doing so than, probably, any other man in America. He is a collector of old books, queer books, curious books, most of them out of print and forgotten. Just when he finds time to read them no one knows, but that he does read and retains a vivid recollection of their contents is illustrated in his varied and extensive knowledge of almost every subject he deals with.

At the trial of the most famous mining case in Colorado, involving millions of dollars, Senator Wolcott, in his closing argument, went back to the time when the earth was without form. He explained the geological formation of the earth, and his theory of the geological formation of the country in which the mines involved were located. He placed maps upon the floor to illustrate his remarks, and at moments of intense interest he got down upon his hands and knees to point out and explain certain things, and some of the jurymen came near going down on their hands and knees, too. He won the suit.

His marriage to Mrs. Lyman K. Bass was a surprise and gratification to his friends. He owns a ranch about an hour's ride from Denver, where he has built a charming country seat. There the Senator is raising some fine blooded stock; in fact, everything on the place is blooded, from the proprietor down to the family watchdog.

The Legislature which meets two years from now will elect his successor. A leading politician, when asked what he thought would be the result of the Senatorial contest, replied: "It looks to me as if it had narrowed down to a contest between the 'Holy Moses' and the 'Last Chance.'"

Mr. David H. Moffat, the bank President, who was ousted recently from the Presidency of the Denver and Rio Grande Railway, it is alleged through the influence of Mr. Wolcott, who is the general counsel of the road and one of its directors, owns the "Holy Moses" mine at Creede, which is outputting a large amount of ore daily, while Senator Wolcott's interest in the "Last Chance" mine at the same place is said to be bringing him about $800 a day. Moffat, it is said, will endeavor to be revenged by opposing Senator Wolcott's re-election. Whatever may be Senator Wolcott's political future, the independent, broad-minded people of the West will always love him for his courage, his dash, and his unswerving loyalty to their interests.

A STRANGE SWIMMER.

A Moose Found Paddling About in a New Brunswick Mill Pond.

OTTAWA, July 9.—The other day at Kouchibouguac, Kent county, N. B., the watchman of McLeod's mill, about daylight, noticed an animal swimming in the mill pond. He thought at first that it was a cow or a horse that had fallen in, but on looking more closely saw that it was a moose of immense size. Some of the hands were called to capture the animal, which, owing to the loose logs floating about, was unable to extricate itself from its predicament. The moose was in savage temper, and was dangerous to approach, but after some trouble the mill chain used for hauling out the logs was fastened around its horns. Then the force of the water was put on, and slowly but reluctantly the creature was landed. The moose, which proved to be fully grown and taller than an ordinary horse, was now captured, but what to do with it was the problem. Two or three persons who went too near the beast were warned by unmistakable signs that its hoofs were dangerous, and one mill hand, a Scotchman who was overbold, got a blow from its forefoot that he will remember to the end of his life. By this time half the people of Kouchibouguac were at the mill. When finally Mr. Atkinson, the manager, made his appearance, he decided that as there was no possible way of keeping the animal in captivity the proper course was to release it, and this was accordingly done. The moose, stiff from its long swim and the rough handling it had received while being hauled out, went down the incline very slowly, and kept on a walk for some time after it reached terra firma, but it limbered up, and when last seen was making good time toward the forest.